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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/054,960 | 01/25/2002 | Ken Matsuoka | 027260-509 | 8761 |

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EXAMINER

ROJAS, OMAR R

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2874 | |

DATE MAILED: 07/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|--|-----------------|--|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/054,960 | MATSUOKA ET AL. | |
| Period for Reply | Examiner | Art Unit | |
| | Omar Rojas | 2874 | |
| <i>-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --</i> | | | |
| A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. | | | |
| <ul style="list-style-type: none"> - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). | | | |
| Status | | | |
| 1) <input type="checkbox"/> Responsive to communication(s) filed on _____ . | | | |
| 2a) <input type="checkbox"/> This action is FINAL. 2b) <input checked="" type="checkbox"/> This action is non-final. | | | |
| 3) <input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213. | | | |
| Disposition of Claims | | | |
| 4) <input checked="" type="checkbox"/> Claim(s) <u>1-24</u> is/are pending in the application. | | | |
| 4a) Of the above claim(s) _____ is/are withdrawn from consideration. | | | |
| 5) <input type="checkbox"/> Claim(s) _____ is/are allowed. | | | |
| 6) <input checked="" type="checkbox"/> Claim(s) <u>1,2,15,18-20,23 and 24</u> is/are rejected. | | | |
| 7) <input checked="" type="checkbox"/> Claim(s) <u>3-14,16,17,21 and 22</u> is/are objected to. | | | |
| 8) <input type="checkbox"/> Claim(s) _____ are subject to restriction and/or election requirement. | | | |
| Application Papers | | | |
| 9) <input type="checkbox"/> The specification is objected to by the Examiner. | | | |
| 10) <input checked="" type="checkbox"/> The drawing(s) filed on <u>25 January 2002</u> is/are: a) <input checked="" type="checkbox"/> accepted or b) <input type="checkbox"/> objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). | | | |
| 11) <input type="checkbox"/> The proposed drawing correction filed on _____ is: a) <input type="checkbox"/> approved b) <input type="checkbox"/> disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action. | | | |
| 12) <input type="checkbox"/> The oath or declaration is objected to by the Examiner. | | | |
| Priority under 35 U.S.C. §§ 119 and 120 | | | |
| 13) <input checked="" type="checkbox"/> Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) <input checked="" type="checkbox"/> All b) <input type="checkbox"/> Some * c) <input type="checkbox"/> None of: 1. <input checked="" type="checkbox"/> Certified copies of the priority documents have been received. 2. <input type="checkbox"/> Certified copies of the priority documents have been received in Application No. _____ . 3. <input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. | | | |
| 14) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application). a) <input type="checkbox"/> The translation of the foreign language provisional application has been received. | | | |
| 15) <input checked="" type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121. | | | |
| Attachment(s) | | | |
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . | |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) | |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> | | 6) <input type="checkbox"/> Other: _____ . | |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The prior art documents submitted by applicant in the Information Disclosure Statement(s) filed on January 25, 2002 have all been considered and made of record (note the attached copy of form(s) PTO-1449).

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. Claims 2 and 7 are objected to because of the following informalities: Claim 2 appears to be missing the word "wherein" before the phrase "said grating." Claim 7 appears to be missing the word "the" before the word "order." Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-2, 15, and 23-24 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication 2002/0114570 to Matsumoto et al. (hereinafter “Matsumoto”).

Regarding claims 1-2, 15, and 23-24, Matsumoto discloses (see Figure 9) an optical receiver comprising: a dispersion detector (22); a tunable dispersion compensation device including an optical waveguide (9) having a chirped grating (12); a plurality of heaters (3₁ to 3_N); and a supplying means (6) which may produce a plurality of pulsed currents (see the last 3 lines of page 6 thru the first 3 lines of page 7) for producing a desired temperature distribution in said grating according to a control signal from said detector (22); and an optical circulator (19). As disclosed by Matsumoto, a “control signal which changes the temperature of the heaters by predetermined values

to obtain the desired dispersion ... is transmitted to the heater control circuit." Id. at page 8, section [0107]. See also page 6, sections [0096]-[0098] and page 8, sections [0106]-[0107].

7. Claims 1-2 and 23-24 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication 2002/0044743 to Takeuchi et al. (hereinafter "Takeuchi").

Regarding claims 1-2 and 23-24, Takeuchi discloses (see Figures 11-12) a tunable wavelength filter comprising: an optical waveguide (19) having a chirped grating (20); a plurality of heaters (22); and a supplying means (see Figure 12) which may produce a plurality of pulsed currents for producing a desired temperature distribution in said grating according to a control signal from section (25). See also page 6, sections [0062]-[0064].

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto.

Regarding claims 18 and 20, the previous remarks concerning Matsumoto are incorporated herein. Thus, Matsumoto expressly teaches most of the recited features of claims 18 and 20.

Matsumoto expressly differs from claims 18 and 20 in that Matsumoto does not appear to expressly disclose an optical transmitter for multiplexing a plurality of optical signals having different wavelengths and a plurality of optical receiving means disposed in an optical receiver for demultiplexing the plurality of optical signals.

However, as disclosed by Applicant(s) and seen in Figure 19 of the drawings filed, the recited optical transmitter and receiving means are known in the prior art to be used in dispersion compensating systems. One of ordinary skill would have sought to modify Matsumoto with the prior art shown in Figure 19 because Matsumoto provides an effective means of temperature control to equalize the dispersion in optical communication systems.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to modify Matsumoto to obtain the invention recited by claims 18 and 20.

10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto as applied to claim 18 above, and further in view of U.S. Patent No. 5,982,963 to Feng et al. (hereinafter “Feng”).

Regarding claims 19, the previous remarks concerning claim 18 are incorporated herein. Thus, most of the recited features of claim 19 are obvious in view of Matsumoto and the prior art.

Matsumoto in view of the prior art further differs from claim 19 in that Matsumoto in view of the prior art does not appear to expressly disclose a static dispersion compensation means coupled to an optical fiber transmission line.

Feng, on the other hand, shows (see Fig. 10A) a static dispersion compensating means (1010) combined with a tunable dispersion compensating element (1020) used in an optical fiber transmission line. See also column 8.

The ordinary skilled artisan would have sought to add a static dispersion compensation means to Matsumoto in view of the prior art because it is well known in the art and desirable to use static dispersion compensating means such as dispersion compensating fiber to compensate for dispersion in long distance optical transmission systems.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to modify Matsumoto in view of the prior art to obtain the invention specified by claim 19.

Allowable Subject Matter

11. Claims 3-14, 16-17, and 21-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: Regarding claims 3-5, 7-14, 16-17, and 21-22, the prior art does not disclose or suggest, alone or in combinations, a tunable dispersion compensating device having all the recited limitations, in particular, a pulse width control means for adjusting pulse widths of the plurality of pulsed currents supplied to the plurality of heaters. Regarding claim 6, the prior art does not disclose or suggest, alone or in combinations, a tunable dispersion compensating device having all the recited limitations, in particular, a

switching means for generating the plurality of pulsed currents from an output of the EMI elimination filter.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (703) 305-8528 and whose e-mail address is omar.rojas@uspto.gov. The examiner can normally be reached on Monday-Friday (7:00AM-3:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hemang Sanghavi, can be reached on (703) 305-3484. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722 for regular communications. The examiner's personal work fax number is (703) 746-4751.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Omar Rojas
Patent Examiner
Art Unit 2874

or
June 23, 2003



H. HEMANG SANGHAVI
PRIMARY EXAMINER